REMARKS

Please enter the above amendment prior to examination of the above-referenced patent application. Changes to the specification and abstract are shown in the attached Appendix A ("VERSION WITH MARKINGS TO SHOW CHANGES MADE") with deletions in brackets and additions underlined.

Feel free to contact the undersigned attorney if you have any questions.

Respectfully submitted,

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Appendix A

(Version with Markings to Show Changes Made)

In the Specification

On page 1, please amend the paragraph beginning on line 1 after the Title to read as follows:

This is a Continuation of U.S. Patent Application Serial No. 09/824,519, filed April 2, 2001, which is a Continuation of U.S. Patent Application Serial No. 09/100,336, filed March 26, 1998, now issued as U.S. Patent No. 6,230,057, which is a Continuation of U.S. Patent Application Serial No. 08/642,702, filed June 3, 1996, which was assigned U.S. Patent No. 5,735,886, now withdrawn, which is a Continuation-In-Part of U.S. Patent Application Serial No. 08/465,766, filed June 6, 1995, now issued as U.S. Patent No. 5,895,415, which are incorporated by reference herein.

In the Abstract

Please amend the Abstract of the Disclosure to read as follows:

An artificial retina device and a retinal stimulation system and method for stimulating and modulating its function is disclosed. The artificial retina device includes [is comprised of plural] multi-phasic microphotodiode subunits. In persons suffering from blindness due to outer retinal layer damage, a plurality of such devices, when surgically implanted into the subretinal space, may allow useful formed artificial vision to develop. [One device, called a MMRI-4, transduces light into electric currents to stimulate the retina. The four microphotodiode subunits of the MMRI-4 are oriented so that each flattened sides of the MMRI-4 has two subunits in a PiN configuration and two subunits in a NiP configuration. The flattened cubic shape of the MMRI-4 will allow one or the other of the two flattened sides to be preferentially directed toward incident light when implanted in the subretinal space. Because both the PiN and NiP configurations are present on each of the flattened sides of the MMRI-4, electric currents which produce the sensation of light from a PiN current, or darkness from a NiP current, can be induced regardless of which the flattened photoactive sides faces incident light. Filter layers disposed on the PiN configuration will allow visible light to induce a PiN current, and filter layers disposed on the NiP configuration will allow infrared light to

induce a NiP current.] By projecting real or computer controlled visible light images, and computer controlled infrared light images or illumination, simultaneously or in rapid alternation onto the artificial retina device, [MMRI-4s,] the nature of induced retinal images may be modulated and improved. The retinal stimulation system [An Adaptive Imaging Retinal Stimulation System (AIRES), with a Projection and Tracking Optical System (PTOS), which] may be worn as a headset [is used for this purpose, and is also disclosed]. Color images may [even] be induced by programming the stimulating pulse durations and frequencies of the stimulation [AIRES system]. [By creating both PiN and NiP currents, in close spatial positions and temporal sequences, electrolysis damage to cellular tissue from prolonged unidirectional electric currents is reduced. MMRI-4s may also be embedded in a flexible, biologically compatible sheet, with its electrodes exposed on both surfaces of the sheet. This sheet is then implanted on the nerve fiber layer surface of the retina, where electrical stimulation can also induce a form of artificial vision.]